REMARKS

Amendments and The Rejections under 35 USC § 112

The claims are ameded. The section 112 formality rejections are overcome. A feature of now cancelled claim 8 is incorporated into claim 1. The new claims find support in the specification and in the original claims. No new matter is added.

Priority

A certified copy of the ribbon priority application is attached to this reply, satisfying the requirements of 35 USC § 119(b).

Information Disclosure Statement

A new copy of the listed German search report dated October 10, 2000, and a translation of the same is attached.

Specification

Applicants thank the Examiner for pointing out the suggested guidelines for the format of the specification. However, applicants decline to amend the same as these guidelines are only suggested and are not mandatory.

Rejections under 35 USC § 102

Claim 1, 2, 3, 5, and 10 were rejected as allegedly anticipated by Ahn et al., and claims 1, 2, 3, and 5 were rejected as allegedly anticipated by Wainer.

Claim 1 is ameded to incorporated a feature of claim 8. None of the claims are anticipated by the cited art.

Rejections under 35 USC § 102/103

Claim 8, and 9 were rejected as allegedly anticipated by, or, in the alternative, obvious over, Ahn et al.

Ahn teaches a ceramic conductivity circuit structure wherein metallized capillaries are formed within a multilayer ceramic circuit board by placing a metallized paste including a refractory metal into the capillaries which are subsequently sintered. See column 3, lines 44-52 and column 4, lines 15-18.

The Office Action alleges that the paste hermetically bonds to the ceramic material. However, the reference as discussed above teaches that the paste is sintered to form the metallized capillaries.

Additionally, claim 1 is directed to a combination where the seal is permanently bonded to the molded element by means of connecting pressure welds. The claimed process leads to a different product than that described in the reference. The specification teaches that by using the process claimed, cosmetic reworking is avoided, since the modified area resulting from harsher processes for making a similar product is only slightly larger than the opening itself, and only a local constraint is provided by the existing geometry of the seal. Further, the thermal stress in the surrounding area of the bonding is small compared to a thermal process because welding by pressure only achieves locally limited heating. See specification on page 7, last two lines to page 8, line 1, and page 9, second full paragraph. Thus, a product produced by the claimed method has improved properties over products prepared according to the reference. Additional advantages are also noteworthy, such as short processing times and low cost. See page 1, last two lines, and page 9, lines 2-5.

Additionally, nowhere does the reference teach or suggest features of at least claims 4, 6, 7, 9, 11-13, and 15-28.

Claim 8, and 9 were rejected as allegedly anticipated by, or, in the alternative, obvious over, Wainer.

Wainer teaches that holes in a ceramic element are filled with a metal which when cooled expands slightly to hermetically seal each hole. The process of filling the holes with metal is taught to involve immersing the ceramic into molten metal 100°C above its melting point in a hydrogen atmosphere followed by an atmosphere of argon and a vacuum of 20 inches mercury, while the argon atmosphere exists, releasing the vacuum, the temperature still being 100°C above melting point of metal, followed by another vacuum. See Wainer on column 11, lines 29-42.

Once again, as discussed above with respect to the Ahn reference, a product produced by the claimed method has improved properties over products prepared according to the Wainer reference. The products prepared according to the claimed invention have properties by which cosmetic reworking is avoided, for reasons discussed above, and have thermal stress in the surrounding area of the bonding which is small compared to the thermal process of Wainer wherein the entire ceramic element is immersed into molted metal held at a temperature 100°C above its melting point.

Additionally, nowhere does the reference teach or suggest features of at least claims 4, 6, 7, and 9-28.

Claim 1-2, and 4-10 were rejected as allegedly anticipated by, or, in the alternative, obvious over, Myers.

Myers teaches inserting light emitting diodes into a substrate. See abstract. Contrary to the allegation of the Office Action, nowhere does the reference teach or suggest that the diode is hermetically sealed into the substrate. The Office Action alleges that support for the presumption that the opening is hermetically sealed can be "found in the use of production steps (i.e. laminating and sealing material) used to produce the display." Applicants however can not find either the term "laminating" or "sealing," or any variation of said terms, in the reference. Nor would one of skill in the art be motivated to seal a diode hermetically into a substrate based on the teachings of the reference.

Additionally, nowhere does the reference teach or suggest features of at least claims 3, 9, 15-20, 23-26, and 28.

Claim 1-3, and 5-10 were rejected as allegedly anticipated by, or, in the alternative, obvious over, Tukude.

Tukude teaches a substrate that has through-holes which are filled with conductive material. See column 3, lines 47-49. Once again, the process of preparing the claimed subject matter distinguishes the product itself from the products of the reference. Tukude teaches that the conductive material may be a paste or a solder. See column 4, lines 9-13. A solder is applied while hot, i.e., involves more than locally limited heating that can be achieved by pressure welding, and thus, affects the characteristics of the final product in a way which distinguishes it form the presently claimed invention as discussed above. In case of a paste, the reference teaches that once the paste is inserted into the holes, the paste is cured to form a film of a conductor on the inner walls of the through-holes. See column 4, lines 19-20. Thus, the paste does not permanently hermetically seal the hole. Tukude teaches that the through holes can be sealed by, in addition to the solder and/or paste discussed above, a sealing material, such as solder glass, which also involves more than locally limited heating, thus, changing the characteristics of the product as discussed above, or by a resin, which needs additional curing, for example, by heating. See column 3, lines 31-34, and column 4, lines 48-52. Example 2 of Tukude, for example, teaches that the paste is applied to the inner walls of the through-holes, followed by printing a lead pattern onto the back of the substrate with the same paste, followed by raising the temperature to 530°C to fix the pattern. Thus, this example, as well, teaches the use of more than locally limited heating, whereby the thermal stress in the surrounding area of the bonding in the through-holes is not limited, thus, changing the characteristics of the product as discussed above.

Additionally, nowhere does the reference teach or suggest features of at least claims 4, 9, 11-13, 19-20, 23-26, and 28.

Furthermore, there is no teaching or suggestion in the references to provide the requisite motivation to one of ordinary skill in the art to combine their teachings in a way which would result in the claimed invention.

Reconsideration of the rejections is respectfully requested.

Attached hereto is a marked-up version of the changes made to the claims by the current amendment. The attached page is captioned **"Version With Markings To Show Changes Made"**.

The Commissioner is hereby authorized to charge any fees associated with this response or credit any overpayment to Deposit Account No. 13-3402.

Respectfully submitted,

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Version With Markings To Show Changes Made

In the Claims

The claims have been amended as follows:

1. (Amended) A molded ~~Molded~~ element that comprises ~~consists of~~ brittle-fracture material with at least one opening that is hermetically sealed by a sealing element, ~~whereby~~ wherein the molded element and the sealing element are permanently bonded together by means of connecting pressure welds.

2. (Amended) A molded ~~Molded~~ element according to claim 1, ~~characterized in that~~ wherein the molded element is ~~consists of~~ glass, glass ceramic or ceramic.

3. (Twice Amended) A molded ~~Molded~~ element according to claim 1, wherein the sealing element is ~~consists of~~ a metal, a metal alloy or a metal composite.

4. (Twice Amended) A molded ~~Molded~~ element according to claim 1, wherein the sealing element is ~~consists of~~ a brittle-fracture material~~, especially glass, glass ceramic or ceramic~~.

5. (Twice Amended) A molded ~~Molded~~ element according to claim 1, wherein the sealing element has a plate ~~platelike~~, spherical, conical or cylindrical shape.

6. (Twice Amended) A molded ~~Molded~~ element according to claim 1, wherein the molded element is a glass plate, ~~whereby the~~ and wherein the at least one opening has the shape of a through-going cylindrical opening or through-going conical opening~~, especially the shape of a corresponding hole~~.

7. (Amended) A laminated glass system comprising a molded ~~Molded~~ element according to claim 6~~, wherein the molded element is part of a laminated glass system, especially part of a laminated glass system with electrochromic properties~~.

Claim 8 has been cancelled without prejudice or disclaimer.

9. (Amended) A molded ~~Molded~~ element according to claim 1 ~~8~~, wherein the molded element and the sealing element are bonded by means of welding by movement~~, e.g., ultrasound welds, high-frequency welds, rotary welds, friction welds, torsional or orbital welds, cold pressure welds or abrasive welds~~.

10. (Twice Amended) A molded ~~Molded~~ element according to claim 1, wherein the molded element and/or the sealing element is at least partially coated~~, especially metal- and/or plastic-coated~~.

Claims 11-27 have been newly entered.